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RCRA RECORDS CENTER  
FACILITY Pratt & Whitney - Main St  
I.D. NO. CTD 990672081  
FILE LOC. R-1B  
OTHER RDMS #2710

**ATKEARNEY**

November 6, 1986

Mr. Paul Bedrosian  
Regional Project Officer  
U.S. Environmental Protection Agency  
Room 2203  
John F. Kennedy Federal Building  
Boston, MA 02203

RE: EPA Contract No. 68-01-70-38; Work Assignment R01-01-16  
Completeness/Technical Review of Interim Status Closure  
Plan; United Technologies, Pratt & Whitney, East Hartford,  
Connecticut - CTD 990672081

Dear Mr. Bedrosian,

Enclosed is the completeness/technical review of the closure plan submitted by United Technologies Corporation, Pratt & Whitney. The closure plan is written in sufficient detail such that the closure is understandable and the closure schedule can be justified. However, the closure cost estimates cannot be fully substantiated, and the plan will have to be modified to fully comply with 40 CFR 265 Subpart G. Specific comments concerning completeness and technical deficiencies are included in the closure plan review.

#### Closure Plan Review

The submitted closure plan concerns the partial closure of the Burn-Zol liquid injection incinerator. It does not include the hazardous waste barrel storage, transporter storage, and tank storage units which are addressed in the closure plan with the Part B Permit Application. The partial closure plan also does not include closure financial assurance and liability requirements. According to the permit reviewers, Art Wing and George Dews, United Technologies Corporation has met the closure financial and liability requirements by submitting a financial test for closure and a Certificate of Liability Insurance. Therefore, these items were not included in this review.

The closure plan plan lacks a description of removal and clean-up procedures. The plan does not describe how the residue, ash and other residues and the refractories will be removed from the incineration equipment. It also does not describe the procedures for cleaning the outside of the

Ms. Cervera  
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incineration equipment, the cleaning equipment, the building, concrete pad, or surrounding structures, and soils. In fact it is not clear what portion of the equipment is indoors, what portion is outdoors on a concrete pad, and what portion could potentially leak or spill on soil.

The closure costs estimated by the applicant appear to be quite reasonable for the proposed closure activities. For example, the internal labor cost used in their estimates is higher than a third party rate. The only exception is that the certification might cost \$2,000 to \$3,000, including inspections, rather than the \$600 estimated by Pratt & Whitney. However, the total activities have not been considered and therefore have not been included in the cost estimate. Prominent among these are testing and decontamination of the outside of the equipment, the cleaning equipment, the concrete pad and surrounding structures or building interior, and any soils that might have received drips, spills, or leaks. In addition, although it is possible that all wash waters and rinse waters might be non-hazardous and amenable to NPDES disposal, one must consider the alternative that much of this water would require treatment or disposal as hazardous waste. Taken together, a much larger amount of hazardous waste may exist at closure than the applicant has assumed and this would result in a much larger closure cost.

The completeness/technical review lists other minor deficiencies which will have to be corrected in the closure plan to assure full compliance with the Interim Status Standards.

Please call if you have any questions.

Sincerely,

*Mary Cervera*

Mary Thoma Cervera, P.E.  
Technical Director

cc: T. Conlon, EPA Region I  
A. Wing, EPA Region I  
K. Breeden  
J. Grieve  
J. Bennett  
W. Rohrer, PRA  
J. Huls, HLA-H

**Completeness/Technical Review  
Interim Status Closure Plan  
United Technologies Corporation, Pratt & Whitney  
400 Main Street  
East Hartford, Connecticut  
ID No. CTD 990672081**

### GENERAL COMMENTS

The partial closure plan deficiencies occur in three areas. The maximum waste inventory does not take into consideration residues such as ash, scrubber waters, and scrubber sludges from the incineration equipment. Removal and clean-up procedures do not describe how these residues and the refractories will be removed, and how the outside of the incineration equipment, the cleaning equipment, the building, concrete pad, or surrounding structures and soils will be cleaned.

The portions of the closure costs provided in the plan are adequate. However, no closure costs have been estimated for testing or decontamination of the outside of the incineration equipment, the concrete pad and surrounding structures or the inside of the building, the cleaning equipment, and the surrounding soils, and no explanation has been given for not including these activities in the costs. The closure cost estimate must be based on third party costs.

### SPECIFIC COMMENTS

A-1                    Closure Plan Requirements: 265.110 through  
265.115, 265.351

Revise the partial closure plan to incorporate detailed procedures to sample, remove and/or decontaminate the outside of the incineration equipment, the concrete pad and surrounding structures or the inside of the building, the cleaning equipment, and the surrounding soils.

Alternately an explanation may be given for not performing some of these activities. The partial closure plan should be revised to be consistent with deficiency comments A-1b through A-1g.

A-1b Maximum Waste Inventory: 265.112(b)(3)

Include in the maximum inventory estimates the maximum amount of hazardous waste residue, such as ash, scrubber waters, and scrubber sludges from the incinerator, waste heat boiler, and air pollution control equipment.

A-1c Closure of Hazardous Waste Units: 265.112(b)(4), 265.112(b)(5), 265.114

Include the following information regarding decontamination:

- (1) A list of potentially contaminated areas in the area surrounding the incinerator;
- (2) Methods for sampling and testing surrounding soils;
- (3) Procedures for cleaning (outside and inside), removing, or disposing of contaminated equipment, structures, and soils

A-1c(5)(a) Removal of all Hazardous Wastes and Waste Residue:  
265.351

Describe how all waste residues such as ash, scrubber waters, and scrubber sludges will be

removed from the incinerator, waste heat boiler, and associated air pollution control equipment.

A-1c(5)9b) Decontamination/Disposal Procedures For Incinerators and Associated Equipment, Adjacent Surface and Subsoils, and Clean-up Equipment:  
265.351, 265.114

Discuss the procedures for decontaminating the incinerator and associated equipment (outside and inside), including ash collection and emissions control equipment, clean-up equipment, and the surrounding area.

Unless a demonstration can be made that they are not hazardous wastes, all residues must be managed as hazardous wastes. Describe how the residues will be properly treated or disposed.

Specify the procedures for determining if any surfaces or subsoils within or adjacent to the incinerator area are contaminated, and provide the procedures for removal, treatment or disposal of these contaminated materials.

A-1g Certification of Closure: 265.115

Specify that, when closure is completed, certification will be submitted by both the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the approved closure plan. The engineer certification should include records of inspection, sampling and analysis

results, and all observations made by the engineer to verify that the facility has been closed in accordance with the approved closure plan.

A-3

Closure Cost Estimate: 265.142

Include in the closure cost estimate cost of testing and decontamination of:

- (1) any incinerator equipment surfaces;
- (2) the concrete pad and surrounding structures or the interior of the building; and/or
- (3) those soils in the surrounding area that may have been contaminated by drips, leaks, or spills during the testing of the incinerator.

The costs must be based on third party closure costs. Substantiate the costs in the closure cost estimate as being equivalent to third party costs or revise the closure costs estimate to account for third party closure.

## DRAFT

INTERIM STATUS (265) CLOSURE/POST-CLOSURE PLAN CHECKLIST

		Provided (Y/N)	Adequate (Y/N)	Not Applicable	Comments
A-1	Closure plan requirements	<u>Y</u>	<u>N</u>	<u>      </u>	<u>Pages 4-10 See comment A-1</u>
A-1a(1)	Closure performance standard	<u>Y</u>	<u>Y</u>	<u>      </u>	<u>Pages 1, 5-7</u>
A-1a(2)	Partial closure activities	<u>Y</u>	<u>N</u>	<u>      </u>	<u>Pages 4-8,</u> <u>See comment A-1c(5)</u>
A-1b	Maximum waste inventory	<u>Y</u>	<u>N</u>	<u>      </u>	<u>Page 5, See comment A-1b</u>
A-1c	Closure of hazardous waste units	<u>Y</u>	<u>N</u>	<u>      </u>	<u>Page 6, See comment A-1c</u>
A-1c(1)	<u>Closure of containers</u>	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>
A-1c(1)(a)	Removal of waste inventory	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>
A-1c(1)(b)	Clean-up of spills or residues and decontamination procedures for liner or base and equipment	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>
A-1c(1)(c)	Testing and analysis to demon- strate success of decontamination	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>
A-1c(2)	<u>Closure of tanks</u>	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>
A-1c(2)(a)	Removal of tank contents	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>
A-1c(2)(b)	Decontamination/disposal procedures for tanks, appurte- nances and adjacent soils/ subsoils and clean-up equipment	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>
A-1c(2)(c)	Testing and analysis to demon- strate success of decontamination	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>
A-1c(3)	<u>Closure of waste piles</u>	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>
A-1c(3)(a)	Removal of waste pile contents, liner (if any), and other con- taminated materials	<u>      </u>	<u>      </u>	<u>NA</u>	<u>      </u>



# INTERIM STATUS (265) CLOSURE/POST-CLOSURE PLAN CHECKLIST

		Provided (Y/N)	Adequate (Y/N)	Not Applicable	Comments
A-1c(3)(b)	Decontamination/disposal procedures for contaminated structures and equipment	_____	_____	<u>NA</u>	_____
A-1c(3)(c)	Testing and analysis to demonstrate success of decontamination of equipment and removal of contaminated soils	_____	_____	<u>NA</u>	_____
A-1c(4)	<u>Closure of surface impoundments</u>	_____	_____	<u>NA</u>	_____
A-1c(4)(a)	Removal of impoundment contents, liner (if any), and other contaminated materials	_____	_____	<u>NA</u>	_____
A-1c(4)(b)	Decontamination/disposal procedures for contaminated equipment	_____	_____	<u>NA</u>	_____
A-1c(4)(c)	Testing and analysis to demonstrate success of decontamination equipment	_____	_____	<u>NA</u>	_____
A-1c(5)	<u>Closure of incinerators</u>	<u>Y</u>	<u>N</u>	_____	Page 5-6, See comments A-1c(5)(a), A-1c(5)(b)
A-1c(5)(a)	Removal of all hazardous waste and waste residues	<u>Y</u>	<u>N</u>	_____	Page 5, See comment A-1c(5)(a)
A-1c(5)(b)	Decontamination/disposal procedures for incinerators and associated equipment, adjacent surface and subsoils, and clean-up equipment	<u>Y</u>	<u>N</u>	_____	Pages 5-6, See comment A-1c(5)(b)

# INTERIM STATUS (265) CLOSURE/POST-CLOSURE PLAN CHECKLIST

		Provided (Y/N)	Adequate (Y/N)	Not Applicable	Comments
A-1c(5)(c)	Testing and analysis to demonstrate success of decontamination	<u>Y</u>	<u>Y</u>	<u>        </u>	<u>Pages 6-7</u>
A-1c(6)	<u>Closure of thermal treatment units</u>	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>
A-1c(6)(a)	Removal of all hazardous wastes and waste residue	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>
A-1c(6)(b)	Decontamination/disposal procedures for thermal treatment units and associated equipment, adjacent surface and subsoils, and clean-up equipment	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>
A-1c(6)(c)	Testing and analysis to demonstrating success of decontamination	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>
A-1c(7)	<u>Closure of chemical, physical, and biological treatment units</u>	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>
A-1c(7)(a)	Removal of all hazardous wastes and waste residues	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>
A-1c(7)(b)	Decontamination/disposal procedures for chemical, physical and biological treatment units and associated equipment, adjacent surface and subsoils, and clean-up equipment	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>
A-1c(7)(c)	Testing and analysis to demonstrate success on decontamination	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>
A-1c(8)	<u>Closure of land treatment units</u>	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>
A-1c(8)(a)	Discontinuation of waste application	<u>        </u>	<u>        </u>	<u>NA</u>	<u>        </u>

# INTERIM STATUS (265) CLOSURE/POST-CLOSURE PLAN CHECKLIST

		Provided (Y/N)	Adequate (Y/N)	Not Applicable	Comments
A-1c(8)(b)	Removal of contaminated soil	_____	_____	NA	_____
A-1c(8)(c)	Continuation of treatment	_____	_____	NA	_____
A-1c(8)(c)(1)	Maintenance of run-on control	_____	_____	NA	_____
A-1c(8)(c)(2)	Maintenance of run-off control	_____	_____	NA	_____
A-1c(8)(c)(3)	Control of particulate releases	_____	_____	NA	_____
A-1c(8)(c)(4)	Compliance of food-chain crop restrictions	_____	_____	NA	_____
A-1c(8)(c)(5)	Unsaturated zone monitoring	_____	_____	NA	_____
A-1c(8)(d)	Land treatment unit cover	_____	_____	NA	_____
A-1c(8)(e)	Equipment decontamination or disposal	_____	_____	NA	_____
A-1d	<u>Closure of disposal units</u>	_____	_____	NA	_____
A-1d(1)	Disposal impoundments	_____	_____	NA	_____
A-1d(1)(a)	Elimination of liquids	_____	_____	NA	_____
A-1d(1)(b)	Waste stabilization	_____	_____	NA	_____
A-1d(2)	Cover design	_____	_____	NA	_____
A-1d(3)	Minimization of liquid migration	_____	_____	NA	_____
A-1d(4)	Maintenance needs	_____	_____	NA	_____
A-1d(5)	Drainage and erosion	_____	_____	NA	_____
A-1d(6)	Settlement, subsidence, and displacement	_____	_____	NA	_____

INTERIM STATUS (265) CLOSURE/POST-CLOSURE PLAN CHECKLIST

		Provided (Y/N)	Adequate (Y/N)	Not Applicable	Comments
A-1d(7)	Cover permeability	_____	_____	NA	_____
A-1d(8)	Freeze/thaw effects	_____	_____	NA	_____
A-1d(9)	Disposal or decontamination of equipment	_____	_____	NA	_____
A-1e	Schedule for closure	Y	Y	_____	Page 8
A-1f	Extensions for closure time	Y	Y	_____	_____
A-1g	Certification of closure	Y	N	_____	Page 12, See comment A-1g
A-2	Post-closure plan requirements	_____	_____	NA	_____
A-2a	Post-closure contact	_____	_____	NA	_____
A-2b	Post-closure security	_____	_____	NA	_____
A-2c	Inspection plan	_____	_____	NA	_____
A-2d	Monitoring plan	_____	_____	NA	_____
A-2e	Maintenance plan	_____	_____	NA	_____
A-2f	Land treatment	_____	_____	NA	_____
A-2g	Notice to local land authority	_____	_____	NA	_____
A-2h	Notice in deed	_____	_____	NA	_____
A-2i	Certification of post-closure	_____	_____	NA	_____
A-3	Closure cost estimate	Y	N	_____	Pages 8-10, See comment A-3
A-4	<u>Financial assurance mechanism for closure</u>	_____	_____	NA	(Not reviewed)

INTERIM STATUS (265) CLOSURE/POST-CLOSURE PLAN CHECKLIST

		Provided (Y/N)	Adequate (Y/N)	Not Applicable	Comments
A-4a	Closure trust fund	_____	_____	NA	_____
A-4b	Surety bond guaranteeing payment into a closure fund	_____	_____	NA	_____
A-4c	Closure letter of credit	_____	_____	NA	_____
A-4d	Closure insurance	_____	_____	NA	_____
A-4e	Financial test and corporate guarantee for closure	_____	_____	NA	_____
A-4f	Use of multiple financial mechanisms	_____	_____	NA	_____
A-4g	Use of financial mechanism for multiple facilities	_____	_____	NA	_____
A-5	Post-closure cost estimates	_____	_____	NA	_____
A-6	Financial assurance mechanism for post-closure care	_____	_____	NA	_____
A-6b	Surety bond guaranteeing pay- ment into a post-closure trust fund	_____	_____	NA	_____
A-6c	Post-closure letter of credit	_____	_____	NA	_____
A-6d	Post-closure insurance	_____	_____	NA	_____
A-6e	Financial test and corporate guarantee for post-closure care	_____	_____	NA	_____
A-6f	Use of multiple financial mechanisms	_____	_____	NA	_____
A-6g	Use of a financial mechanism for multiple facilities	_____	_____	NA	_____

# INTERIM STATUS (265) CLOSURE/POST-CLOSURE PLAN CHECKLIST

		Provided (Y/N)	Adequate (Y/N)	Not Applicable	Comments
A-7	Liability requirements	_____	_____	NA	(Not reviewed)
A-7a	Coverage for sudden acci- dental occurrences	_____	_____	NA	_____
A-7a(1)	Endorsement or certification	_____	_____	NA	_____
A-7a(2)	Financial test for liability	_____	_____	NA	_____
A-7a(3)	Use of multiple insurance mechanisms	_____	_____	NA	_____
A-7b	Coverage for nonsudden acci- dental occurrences	_____	_____	NA	_____
A-7b(1)	Endorsement or certification	_____	_____	NA	_____
A-7b(2)	Financial test for liability coverage	_____	_____	NA	_____
A-7b(3)	Use of multiple insurance mechanisms	_____	_____	NA	_____
A-7c	Request for variance	_____	_____	NA	_____
A-8a	Use of state-required mechanisms	_____	_____	NA	_____
A-8b	State assumption of responsibility	_____	_____	NA	_____